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Satisfaction with Creativity:

A Study of Organizational Characteristics and Individual Motivation

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“My feeling is that the concept of creativeness and the
concept of healthy, self-actualizing, fully-human
person seem to be coming closer and closer together,
and may perhaps turn out to be the same thing”
(Maslow, 1963, p. 4)

Taking an interactionist perspective, this contribution identifies the role of context in allowing the expression of individual creativity, whether such creativity is the outcome of innate talent or whether it needs to be nurtured and learned to different extents. Unlike previous work, however, rather than studying the intensity of creativity measured in terms of creative outputs, typically associated with productivity and innovation, we focus on the degree to which the individual need for expressing creativity is satisfied.

Individual satisfaction has been argued to reflect the perceived distance between individual aspirations and achievement (Inglehart, 1990). In answering the question of *what influences satisfaction with creativity in the workplace*, this work takes into account the extent to which the organization supports human aspiration to creativity, rather than the extent to which individual creativity can support organizational goals. Consistently, we

account for individual aspirations as reflected in motivations as well as preferences regarding governance processes and work practices. At a macro level, we also consider the socio-economic quality of the environment where individuals live and work. When applied to work contexts, this approach allows predicting the effects on satisfaction with creativity (SwC hereafter), which is expected to contribute to individual accomplishment.

With SwC as a measure, our emphasis falls on the individual's own evaluation of his or her experience (Dewey, 1917a; Rorty, 1979). A similar approach is reflected in the more recent work of Ford (1996), who presents a multi-level theory of both psychological and institutional causes affecting individual preferences towards creative behavior (Cf. also Csikszentmihalyi, 1990). The peculiarity of this approach is that the discovery of wishes, aspirations and attitudes is endogenous, bounded to an evolving path. Likewise, expectations regarding the use of creativity can be assumed to be affected by prior experience. In these respects, need theory in psychology supports the view that creativity can be one way to satisfy the human need for accomplishment and self-determination, therefore contributing to the psychological well-being of individuals more generally (Deci & Ryan, 1990; Maslow, 1943). Following Maslow's work, in particular, the need to express creativity is considered as a possible way, depending on the person's desires and experience, of achieving self-actualization: the highest (and less "prepotent") need in Maslow's theory. It follows that the same organizational features impacting on SwC should also have an impact on satisfaction with personal fulfillment, if fulfillment is sought through the use of creativity.

Finally, our work complements the vast literature dealing with work psychology and organizational well-being (Jones & Fletcher, 1996). Satisfaction as a measure of well-being is related to organizational processes showing a positive connection between "job resources" in terms of autonomy, involvement and on-the-job relations, and workers' subjective evaluation

of their ability to engage and accomplish job related task (Bakker, Schaufeli, Leiter, & Taris, 2008; Schaufeli, Bakker, & Rhenen, 2009). In answering our question on what organizational features favor the accomplishment of creativity we focus in particular on a number of determinants that this literature collect under the umbrella of “job resources”.

In particular, we rely on a national Survey on Italian Social Cooperatives (SISC hereafter) undertaken in Italy in 2006. Data include information about 4134 salaried workers in 320 Italian social cooperatives: mutual benefit organizations with a not-for-profit objective whose main activity is devoted to social areas of concern.¹ This original data set provides a specific application of the study of creativity-related satisfaction in the not-for-profit sector, where employees’ task-oriented motivation is hypothesized to be substantive. In the empirical analysis we use three items of satisfaction measured on a 1 to 7 Likert scale as dependent variables in the ordered logit model: satisfaction with creativity, with self-fulfillment and with the job as a whole.

The Creativity of Human Action: A Pragmatist Approach

Building on the debate started by earlier pragmatists and institutionalists, who were concerned about the relationship between habitual behavior and novelty in society, we see creative action as the *intentional* product of interaction between the individual and different domains (e.g. the market, the organization, or sub-groups within the organization) (Peirce, 1905; Veblen, 1898; Dewey, 1922). Creativity and its expression introduce a *variation* in habits and new action enters into a process of evolutionary *selection*, by which others can

¹ Social cooperatives, in Italy, are part of the wider legal category of social enterprises. These can be identified as cooperatives, entrepreneurial non-profit organizations and not-for-profit investor owned companies. In particular, social cooperatives have been regulated by Law 381/1991, while social enterprises have been regulated by Law 118/2005, and by Decree 155/2006.

imitate the new behavior and, in the long run, generate new habits (Ford, 1996; Mayew, 1998).² Reflecting on his work, as well as on the more recent contributions by Joas (1996) and Ford (1996), we regard individual creativity as the ability to identify and problematize a situation in a particular domain in a new and relevant way, transforming inter-subjective understanding into new action, in any field, therefore bringing something into existence using intelligence and imagination, amongst other factors. In our approach, as earlier emphasized by Sacchetti et al. (2009), the meaning of bringing something into existence does not necessarily overlap with the idea of industrial or business innovation. Rather, it is the interaction between environmental conditions and the individual's genuine willingness to experience new ways of doing things and provide actions with a meaning, which could be expressed by *any* individual, in *any* role (Dewey, 1917a; Joas 1996; Sacchetti, Sacchetti, & Sugden, 2009).

Drawing on pragmatism and institutionalism, we therefore regard *satisfaction with creativity* as the manifestation of the individual's sense of accomplishment that derives from the capability to make sense of existing situations in a new way, and act so as to follow the knowledge and intuition brought about by experience. Such process takes the form of a meaningful interaction between the individual and the environment during the course of actions that is aimed at satisfying the individual's initial desires. In so doing individuals also convey views and intuitions, signal motives and aspirations to the realization of evolving

² With his theory of value, Dewey recognizes the importance of experience and enquiry in realigning established habits and rules with individual desires, emphasizing the uniqueness and diversity of the individual experience (Dewey, 1917a). The emphasis of this *process of inter-subjective evaluation* is on the learning matured with experience, through critical appraisal. It follows that the value attached to attained ends, including their novelty, is not known prior to experience.

ends. The capability to exercise one's own creativity, as argued by Dewey and consistently with the later work in organizational psychology by Amabile (1997), needs in the great majority of cases, to be built, learned and encouraged.

Consistently, self-determination theory in psychology suggests that fulfillment follows the existence of specific contextual conditions, which allow individuals to pursue ends harmoniously with one's own needs and aspirations (Ryan & Deci, 1990). Within the organizational domain a major issue related to the formation and evolution of ends regards the interaction between the individual and the context. Self-determination theory points to the impacts of such interaction on individual motivations, steering the individual either towards a feeling of competence, autonomy and, ultimately, self-determination or, conversely, empowering an external locus of control which guides individual actions from the outside (Deci & Ryan, 2008). The implication is that intrinsically determined drivers for action predict high levels of creative action and satisfaction.

Measures and Hypotheses: Satisfaction as a Criterion

Within the SISC survey of social cooperatives, the principal criterion measure is individual "satisfaction with the variety and creativity of the job."³ This captures a self-assessment of the match between the desire to express one's own creativity and its realization in the workplace. To some extent, our measure has similarities with those assessing the capabilities of workers to engage with their job and derive satisfaction from it (Schaufeli et al 2009). At the same time, this is not an objective measure of creative outputs and productivity (as, for example, in Amabile, Conti, Coon, Lazenby, & Herron, 1996), or yet again a measure of cognitive styles, as used in Kirton (1976). By using a subjective assessment, rather, the

³ This is one of the items of the questionnaire administered to paid workers.

nature of the job is evaluated on the employee's terms rather than on a particular action or project identified as creative by managers, experts, or by the researcher.

At a substantive level, we expect creativity-related satisfaction to be higher (a) when the organizational context favors inclusion, as ways to promote sense-making, critical enquiry, learning and the compatibility between individual and organizational objectives; (b) when individuals have and can develop the supporting skills to engage in both autonomous and collaborative work, as two complementary elements which stimulate creative action; (c) when individuals choose their occupation on the ground of intrinsic motivational drivers; (d) when local development conditions provide a context where other fundamental human needs are satisfied; e) finally, as we consider the expression of creativity as one way to achieve self-fulfillment, we also expect the domain of SwC being largely coextensive with the domains of satisfaction with self-fulfillment in the work environment (Table 1).

Insert Table 1 about here

Organizational Domains

Methodologically, this work includes measures of organizational domains that support sense-making and choice, as necessary conditions to the use of creativity (Joas, 1996; Freeman et al., 2010). The model identifies five organizational domains and analyzes their linkages with SwC, satisfaction with fulfillment (SwF hereafter), as well as with overall job satisfaction (Table 2). We start with the following two interconnected hypotheses:

Hypothesis 1a. Organizational domains that favor autonomy, teamwork, inclusion, fairness, and learning enhance workers' sense of accomplishment for creativity in the workplace.

Hypothesis 1b. The domain of creativity shows substantial overlapping with the domain of other more general dimensions of non-material satisfaction, namely self-fulfillment.

Teamwork. Teamwork has been extensively analyzed in innovation literature. Research has looked into the inputs, processes and outputs of teams in order to explain what leads to creative outputs, measured in terms of intentional innovative results. Janssen, Van de Vliert and West (2004) present a substantive review (on which we rely), of the elements which contribute to team innovation. Working in teams has been argued to facilitate innovation via non-conflictual interaction between individuals with different attitudes (e.g. the “innovator” vs. the “adaptor”, Kirton, 1984) facilitating the combination of diverse and complementary abilities (Milliken & Martins, 1996). Effective teamwork has been also argued to require specific team integration skills, which are relevant to collaborative problem solving, conflict resolution, and team self-management, including the ability to design processes for monitoring and assessing the results of group work (Stevens & Campion, 1994)⁴. Integration skills are to be seen in the context of processes which favor inclusion, for example by promoting learning through knowledge sharing and job rotation, by supporting a climate of trust and reciprocal respect against conflictual competition amongst the team members. As in Kanter (1988), support from management, in parallel, provides the information, the resources, the backing and legitimacy that are necessary to implement innovations (Janssen et al., 2004). These elements can be traced also in West’s analysis of *team climate for innovation*, which include (a) commitment to specific objectives from team members; (b) participation in decision-making supported by a climate of reciprocal respect and freedom to voice one’s views; (c) purposefulness; (d) support for innovation in the team (West, 1990; Pirola-Merlo &

⁴ Innovation studies, in particular, show that conflict is reduced and group cohesion enhanced when objectives are clear and when the team is successful in reaching them (Mullen & Copper, 1994).

Mann, 2004). The team defines a domain where the elements mentioned above favor the transposition of creative ideas into new action in general, therefore possibly impacting on satisfaction. Our instrument, in particular, measures the extent to which *cooperation; diffused feelings of trust and respect; job rotation; sharing of knowledge and experience; quality of outcomes as the specified objective; and managers' support to teamwork* impact on SwC (in the empirical analysis we use 6 Likert items from the SISC survey measured on a 1 to 7 scale).

Autonomy. We assume that with autonomy individuals are more likely to act creatively, both because they can select routines which are relevant to the solution of particular problems, but also because they are in a position to make sense of situations in new ways and find new ways of acting (Gioia & Poole, 1984). To reflect these aspects, we use the worker's assessment of the degree of autonomy and self-determination enjoyed when carrying out the job. In particular, one refers to *autonomy in day-to-day job tasks, in problem solving and in the relations with clients* (three 1 to 7 Likert items in the SISC survey), the other is related to the *introduction of innovative ideas* in the organization of work or delivery of services (in this respect we introduce one single dummy). We expect the impact of the latter on SwC to be more prominent. In line with previous work, we also expect autonomy to be positively related to individual satisfaction and sense of accomplishment in general (Deci & Ryan, 2000).

Involvement. Consistently with the role of a collaborative and learning culture, inclusion provides a behavioral framework suggesting that where people are encouraged to articulate and communicate their views freely, the inter-subjective interpretation of situations becomes a creative act and is expected to increase individual sense of accomplishment, not least because it gives voice to intuitions and ideas which can then be reflected into further action

(Joas, 1996; Habermas, 1992). In these respects, organizations can give voice to their employees not only through formal governance and distribution of property rights, but also by favoring a culture of communication and involvement in critical discussions with inputs into strategic decision-making. These features have been argued to foster reciprocity, trust, and individual motivation (Ostrom, 2010; Deci & Ryan, 1990). Consistently, the model includes the worker's assessment of the extent to which the organization allow for *the development of interpersonal relations, for involvement in choices* as well as in the *definition of organizational values and objectives* (three Likert items measured on a 1 to 5 scale).

Fairness. Inclusion is supported and complemented by procedural and interactional fairness (Leventhal, 1980; Tyler & Blader, 2000). On a formal level, fairness defines the quality of organizational processes and can be considered as the perception of the ability of the organization to *give advice and effective guidelines, to gather appropriate information on employees' activities, to apply the same criteria to all workers, to define clear and shared objectives, and to keep word* (5 Likert items measured on a 1 to 7 scale). Complementary, at a relational level, perceived fairness is defined by the quality of inter-tier relations (Colquitt, 2001; Colquitt, Conlon, D. E., Wesson, M. J., Porter, C. O., & Ng, 2001). Fair relationships with the management may be related, for example, with the quality of leadership, in terms of *availability, kindness and respect; listening to ideas and proposals; ability to give advice and guidelines; attention to the quality of work* (4 items measured on a 1 to 7 Likert items). Both procedural and interactional fairness may legitimize individual effort and can be considered as a basic dimension sustaining individual motivation and enabling intuition and imagination to flourish.

Competences. Competences are essential in enabling individuals to grasp the benefits of interaction with the environment and exploit the potential of external stimuli and intuition.

They are associated with the absorptive capacity of organizations and individuals in different roles and position (Cohen & Levinthal, 1990). We therefore test whether SwC is positively related with *task-related competences*. Domain-relevant competences, as Ford (1996) notices, could however jeopardize creative action in favor of habitual action, should the expertise be narrowly focused. To reflect the extent to which the organization provides opportunities for developing individual competences we account for *training* and other forms of *personal development*. We control, in addition for individual *levels of education* (Table 3).

Workload pressure. Creativity has been argued to emerge out of compression (Dewey, 1934). In the work field, however, workload can lead to exhaustion and burnout, potentially harming worker well-being (Scahufeli et al., 2009). In particular, pressure beyond a certain threshold has been argued to represent an impediment to creativity (Amabile et al., 1996) and therefore, presumably, to satisfaction. Consequently, we test the relation between workload pressure and SwC.

Insert Table 2 about here

Initial Motivations

Hypothesis 2. Workers' initial non-monetary motivations positively impact on accomplishment for creativity in the workplace.

The inclusion of workers' ex-ante motivations provide a measure of attitudes and intentions prior to entering the organization that are not conducive to specific characteristics of the workplace. Motivations can also control for the self-selection of workers who are driven by *social and non-monetary drivers*, thus reducing the risk of overestimating the impact of organizational characteristics on SwC. With ex-ante motivations we also assess the compatibility between individual and organizational features (Table 1). Specifically, the direction of the relation between initial motivations and satisfaction need empirical testing, as

initial immaterial motives could still have little influence on creativity, or fulfillment more generally, if objectives and expectations develop inconsistently with the surrounding environment (Locke & Latham, 1990; Vroom 1964).

Other Contextual Controls

Hypothesis 3. Formal membership rights have a positive impact on individual SwC.

The social cooperatives in the survey are worker or multi-stakeholder cooperatives, where paid workers represent a substantial part of the membership.⁵ Formal governance is rooted in democratic rules like the “one member, one vote” rule. Members represent three fourth of the total workforce surveyed (as against non-member workers). We further differentiate between active members and non-active members, and consider the percentage of worker-members in each organization. Because, in principle, membership can give voice to workers and promote engagement, we expect membership to have a positive impact on SwC.

Hypothesis 4. Local socio-economic development supports a higher degree of SwC in the workplace.

The model adds also a number of location and contextual controls, including socio-economic development measures. These controls complement the contextual analysis of satisfaction, as they address aspects that may impact on individual desires, against which reality is assessed (Bruni, 2008). A high level of socio-economic development may activate positive externalities by offering a variety of job opportunities at different levels, thus

⁵ Italian social cooperatives have a not-for-profit objective and are of two different types: Type A and Type B. Type A social cooperatives deliver social services, while Type B social cooperatives must include in their workforce a relevant share (30% at least) of disadvantaged workers (e.g. the disabled, the addicted, single parents, former detainees). Most Type B social cooperatives work in traditional industrial sectors. About 80% of the paid workforce in the SISC database works in Type A social cooperatives.

strengthening the development of competences and creativity overall, beyond the remit of the single organization. On the other hand, such an environment could elevate expectations thus moving the boundaries that divide actual levels of accomplishment and individual desires (Stutzer, 2004). The relationship needs therefore to be empirically tested. We consider in particular the firm's *geographical location*, as well as other contextual variables to account for diversity in the socio-economic structure of regions across the country. We use a simplified version of the *Stiglitz-Sen-Fitoussi index* of socio-economic development for all the 103 Italian provinces.⁶ The original index has been elaborated by the Stiglitz-Sen-Fitoussi Commission (2009). It includes both material (GDP and wealth) and immaterial aspects (measures of societal well-being, of economic, environmental, and social sustainability). This index presents a disaggregated snapshot of the degree of societal wellbeing and social capital, against which workers identify their needs and evaluate accomplishment.

More contextual measures from the survey include salary levels and other economic incentives, as well as the nature of the work contract (Table 3).

Method

The Survey

The items addressing the measures highlighted in the previous Section, with the exception of the Stiglitz provincial index, have been extracted from the 2006 SISC survey on Italian social cooperatives. The survey is composed by four different questionnaires concerning paid workers, volunteer workers, organizations, and managers. The sample of **salaried workers 4134 workers in 320 organizations**) was extracted from the 2003 census on social

⁶ The index has been published in Italy by IISole24Ore, www.ilsole24ore.it, accessed July 2010.

cooperatives (ISTAT, 2003), which counted 6,168 active cooperatives (with at least one employee) at the national level. Representativeness country-wise is guaranteed by stratification on the basis of three parameters: a) typology of cooperative (A and B), b) geographic representativeness by province (Italy counts 20 regions and 103 provinces); c) size (number of employees). Eighty-five per cent of workers answered on average 90 per cent of the 87 questions (56 single choice questions and 31 multiple choice questions).⁷ Workers compiled the questionnaires, which were always handed in anonymous envelopes, in group with the support of trained staff.

We mainly use salaried-worker data, but include also data from the organization questionnaire, as standard controls (e.g. sector of activities and dimension). We connect this choice to our interest in the study of organizational processes from a worker perspective. Connectedly, we observe the wide diffusion of similar studies in applied psychology and human resource management. Within the framework of the job demand and resource model many studies have researched the impact of organizational processes as job resources on work engagement and, more recently, some studies widened the scope of the model to the impact of engagement on employee happiness (Bakker, 2009; Bakker and Demerouti, 2012). Also, our choice was dictated by the large dimension of the sample of workers, which is the only one allowing the direct measurement employee satisfaction and extensive analysis of organizational practices involving workers.

From an overview of socioeconomic features we know that we are looking at workers in their 30s, mainly females (74 per cent), holding a permanent job position (80 per cent).

⁷ The survey was conducted between 2004 and 2007 by the Universities of Brescia, Milan, Naples, Reggio Calabria, and Trento with the support of the Ministry of University and Scientific Research (MIUR).

Education is college or university in 69 per cent of cases. The hourly wage is Euros 6.6 on average and tenure is nearly 6 years on average. The average firm size is 33 salaried employees, 78 per cent are type A and 22 per cent type B cooperatives. Sixty-two per cent are located in the North, 22 per cent in the Centre, and 16 per cent in the South of the country.

Use of Self-Reported Measures

Our data set includes mainly self-reported measures, which raise issues of common method bias (CMB) and upward regression estimates when subjective self-reports are used for both criterion and predictor variables (Podsakoff et al., 2003; see also Spector, 2006 for a critical perspective). Indeed, pairwise correlations between organizational domains and satisfaction are high. The following five considerations mitigate the problem: (i) if CMB were ubiquitous in our results, we should observe large and significant odds ratios for all the regressors based on self-reports, but this is not the case as many odds ratios in Tables 6 and 7 are far from statistical significance, despite the large dimension of the sample; (ii) the anonymous and rigorous method of data gathering is likely to reduce CMB substantially (Podsakoff et al., 2003); (iii) the questionnaire is long (about 75 questions, most of which use multiple indicators) and only a small subgroup of question-items is used; (iv) the large dimension of the sample and its high geographical and contextual can contribute to reduce CMB; (v) overestimation of parameters is not a necessary result of self-rating, which instead can lead to underestimated parameters due to lack of reliability (Conway, & Lance, 2010).

Categorical Principal Component Analysis and Factor Analysis

Before running the econometric estimates, we reduce the wide array of items by means of Categorical Principal Component Analysis (CatPCA) and Exploratory Factor Analysis (EFA). First, we quantify the ordinal categories by means of CatPCA (Michailidis & de Leeuw, 1998; Meulman, Van der Kooij, & Heiser, 2004). In particular, we proceed by performing

separate CatPCA analysis for: the eight items of motivations, the three items of involvement, the five items of procedural fairness, the four items of relationship with managers, the six items of teamwork, the two items of on-the-job autonomy and the three items of workload pressure. For each group of items, we perform EFA on the transformed variables in order to identify latent dimensions. With the exception of motivations, for which two factors are extracted and the oblique rotation is performed, all other EFAs extract one factor for each group and do not need rotation. The factor loadings from EFA are shown in **Table 5**.

Insert Table 5 about here

All of the groups of items selected ex-ante and included in the latent dimensions show good internal consistency since the values of the Cronbach's Alphas are comprised between 0.72 and 0.88. These results can be considered a prima-facie confirmation of construct-identification validity based on item validity (Cronbach & Meehl, 1955). We then proceed to use the factor scores of the constructs in a latent variable ordered logit model which estimates structural parameters.

Ordered Logit Model

We run the econometric analysis in a cross section environment, where items of satisfaction are the response variables.⁸ Odds ratios, z-statistics and other summary statistics are presented in Table 4. Equation (1) depicts the reduced form of the model:

⁸ Tests concerning the exogeneity of regressors and, in light of our conceptual framework, the causal relation running from organizational processes to satisfaction, have been initiated and are under way. Instruments have been mainly drawn from contextual conditions, such as geographic location and index of socio-economic development, and from organizational variables, such as the forced utilization of part-time positions. Results (which

$$S_i = \alpha + \beta_j Involv_{ji} + \beta_h Learn_{hi} + \beta_k Member_{ki} + \beta_m Mot_{mi} + \beta_n Context_{ni} + \beta_p Socio_{pi} + \beta_q Org_{qi} + \varepsilon_i \quad (1)$$

S represents the outcome variable, i.e. the three items of satisfaction in turn. $Involv_j$ is the $j \times 1$ vector including the factor scores for involvement, procedural and interactional fairness, teamwork, autonomy in organizing job tasks and in the development of novelty, and workload pressure, with $j=1 \dots 7$. $Learn_h$ ($h=1 \dots 3$) includes the variables concerning (the absence of) professional growth, training, and the degree of competence; $Member_k$ ($k=1, 2$) represents the formal dimensions of inclusion.⁹ Mot_m ($m=1 \dots 5$) includes the factor scores for ex-ante attitudes towards work and organizational values, whereas for monetary motivations we use the original items. $Context_n$ ($n=1 \dots 2$) includes the Stiglitz index for socio-economic development, and the logarithm of provincial annual income. $Socio_p$ ($p=1 \dots 8$) includes the socio-demographic features of employees; and Org_q ($q=1 \dots 2$) includes standard organizational controls. We allow for standard errors that are robust to heteroskedasticity of the error term and we cluster standard errors at the organizational level to partial out the effect of intra-class correlation.

Results

Table 6 reports ordered logit estimates for the three selected items of satisfaction as regressed against organizational features, individual motivations and control variables. These

are available from the authors upon request) are encouraging, though not final, as they show that teamwork, procedural fairness and relationship with superiors may be considered exogenous factors impacting on satisfaction. Also, the analysis demonstrates the relevance of the used instruments and does not contradict validity in the case of involvement, procedural fairness and relationship with superiors.

⁹ We have not included the item “Intensity of members’ participation” (Appendix, Table A2) because participation is to be considered the outcome more than a determinant of satisfaction.

data support Hypothesis 1a indicating that the relation between the identified organizational domains and SwC is significant and positive.

Insert Table 6 about here

Organizational Domains

The odds of a unitary increase in SwC are increased by a factor equal to 1.63 ($p < 0.001$) by a unitary increase in quality teamwork (Table 4). SwC is also positively related with domain-relevant competences (odds ratio 1.17, $p < 0.001$) and with employees' autonomy (odds ratio 1.23 for day-by-day autonomy, $p < 0.001$, and 1.29, $p < 0.01$ for autonomy in innovating). Overall, measures of inclusiveness and fairness are positively and significantly related with SwC: the odds of a unitary increase in SwC are increased by 14% ($p < 0.01$), 20% ($p < 0.01$), and 22% ($p < 0.001$), by a unitary increase in involvement, procedural fairness and relational fairness with superiors respectively. On the other hand, the odds of not being satisfied with creativity are increased by poor initiatives towards professional growth (56.3% increase, $p < 0.01$) (Table 4). Looking at interactions (Table 5),¹⁰ a specific trade off is observed between individual competence and fair relationships with managers (odds ratio 0.92,

¹⁰ The analysis of interaction terms was set up by focusing on the most relevant determinants of SwC. Six regressors were identified: teamwork, autonomy in innovation, involvement, relationships with superiors, required competencies and motivations ex-ante. Autonomy in innovation was preferred to autonomy because the latter did not show significant interactions. Relationship with superiors was preferred to procedural fairness since, while the two regressors show a widely coextensive impact on satisfaction, the former appears slightly more relevant than the latter.

$p < 0.01$), defined as the opportunity to seek listening, advice, respect, direction and attention to results.¹¹

Insert Table 5 about here

Initial Motivations

We observe a high level of statistical significance of impacts, with a unit increase in the degree of ex-ante motivations expanding the odds of being more satisfied with creativity by a factor of 1.33 ($p < 0.001$). Looking at interactions, SwC is more likely (odds ratios 1.14, $p < 0.05$) when teamwork occurs amongst highly motivated individuals (Table 5). Conversely, workers who landed on to the non-for-profit sector because short of alternatives are less satisfied regarding all measures of fulfillment as well as, and especially, overall job satisfaction. The odds of being more satisfied with creativity are decreased in their case by 5 per cent (odds ratios 0.95, $p < 0.01$). Monetary motivations foster job satisfaction as a whole. This can be true if workers perceive monetary outcomes as a form of recognition by the organization. On the other hand, more satisfied workers can be more productive and, overtime, end up being awarded higher wages (Becchetti, Castriota & Tortia, 2012). On the other hand, monetary motivations do not show any significant link with SwC (Table 4). These data support Hypothesis 2 indicating that the overall relation between initial inner motivations and SwC is positive and significant.

¹¹ The five interactions including the degree of required competences show a high degree of multi-collinearity with all the other five organizational dimensions (correlation coefficients equal or higher than 0.93). This is taken to mean that workers perceive a high degree of required competencies *whenever* they are involved in the considered organizational dimensions. In the estimates in Table 5, after carefully controlling for the sensitivity of the estimated parameters, we include the collinear interaction between required competences and fair relationships with managers since it evidences a significant trade-off in terms of impact on SwC.

Coexistence with Self-Fulfillment

Overall, both SwC and SwF are significantly and positively related to the initial set of immaterial motivations and to the same organizational domains. Results support Hypothesis 1b. Both the odds ratios of SwC and SwF are elicited by: teamwork (1.63 vs. 1.38), domain-relevant competences (1.17 vs. 1.08), autonomous innovation (1.29 vs. 1.27), and ex-ante non-monetary motivations (1.33 vs. 1.15) (Tables 5, 7). The relevant positive differences for teamwork and motivations highlight the specific function of these two dimensions in fostering the perception of creativity in work tasks. Only two major differences emerge out of the analysis of interactions concerning SwC relative to SwF. The odds SwC are increased by intrinsically motivated individuals acting within a team (14% increase, $p < 0.05$) and when employees with jobs that do not require high-level competences can communicate with the management to seek advice and learn (9% increase, $p < 0.01$). The odds of SwF, on the other hand, are increased when intrinsically motivated individuals interact with fair superiors (15% increase, $p < 0.05$), which suggests that the impacts of motivations are amplified by fair organizational processes. Moreover, the odds of SwF is reduced when teamwork and autonomy in innovation interact (27% decrease, $p < 0.05$).

The odds of overall job satisfaction, which includes also monetary elements, are positively impacted by factors encompassing measures of procedural and relational fairness (1.33 $p < 0.001$; 1.35, $p < 0.001$ respectively) and this effect is greater than for SwC (Tortia, 2008; Helliwell & Huang, 2011). Initial non-monetary motivations play a positive and significant role (1.17, $p < 0.01$), although the odds ratio are lower than for SwC (1.33, $p < 0.001$). The absence of alternative employment opportunities exerts a stronger negative impact on job satisfaction (0.85, $p < 0.001$) than on SwC (0.95, $p < 0.001$). Differently from

SwC and SwF, for overall job satisfaction substantive involvement in decision-making plays no role, whilst the monetary incentives have a positive and significant impact (1.13 $p < 0.001$).

Insert Table 6 about here

Formal Governance

Hypothesis 3 is not supported since the membership status and the intensity of membership at organizational level show no impact on SwC, SwF, and overall job satisfaction (Table 4).¹²

Demographic and Contextual Controls

Neither organizational controls, nor demographic controls bear any significance for SwC or SwF. Demographic components become relevant only when considering the domain of overall job satisfaction, and tend to confirm previous results in the literature (Easterlin, 2008). Size and sector of the organization, conversely, are irrelevant with respect to all aspects of satisfaction considered. Macro socio-economic development, as measured by the Stiglitz index, bears positive significance for both SwC and SwF, though the impact in terms of odds ratios is small (1.01 in both cases, $p < 0.01$).

Discussion

Overall, results show that creativity needs are satisfied when the organizational domain is inclusive and fair, and when individual specific competences are paired by a mix of autonomous, independent action, and deliberation with others.

¹² The analysis of the formal governance and contractual structure should be deepened in various directions because, for example, the formal status of workers as members of the organization can interact in important ways with the features and constraints defined by labor contracts. A more in depth discussion of formal institutional aspects is beyond the scope of our analysis.

First, and consistently with the literature, the team emerges as the space with the highest impact on SwC: i.e. where the worker, by actualizing motivational drivers, expresses and develops intuitions by way of interaction with others, whilst benefiting from complementary experiences and skills to support achievement. Teamwork clearly appears as the organizational dimension that is best able to reinforce the impact of initial immaterial motivations, and vice versa motivational resources reinforce the positive impact of group work on SwC. The findings support the view for which humans' satisfaction with their needs and aspirations, as embodied by initial motivations, depends on the interaction with the context (Dewey 1917a; Rorty, 1979). As we find out, the context that matters the most, in our case, is a micro-context, such as the team, where experience is associated with communication, learning by doing, good inter-personal relationships and achievement.

Second, both domain-relevant competences and relationships with managers positively impact on SwC. However, the level of skills is a substitute, rather than a complement, of positive relationships with superiors. In fact this result emphasizes the existence of two alternative channels for SwC: if the task requires high competences, SwC increases when interaction with managers is not a prominent aspect of the work experience. SwC seems to follow an autonomous pattern, as if high domain-relevant skills may lead to potential conflict with superiors when creative action is at stake, hinting at resistance to diversity of approaches (Cf. Axtell, Holman, Unsworth, Wall, & Waterson, 2000). Conversely, if the role does not require the use of specific abilities, SwC can be improved by good communication with superiors, whose respectful advice can support and stimulate employees' creativity.

Third, SwC is positively impacted by organizations that favor substantive inclusion i.e. through the promotion of involvement in the definition of organizational objectives and values, and through the implementation of fair procedures and relations. SwC is enhanced by

an empowering and fair work environment, quite independently of the specific features of job tasks.

Fourth, as for the coexistence of SwC and SwF more generally, we have echoed Maslow (1943) in saying that self-realization can be achieved in a plurality of ways and might well mean different things to different individuals. Our findings show that the determinants of SwC are highly consistent with the determinants of SwF. It follows that organizations can promote the achievement of individual desires regarding creativity by leveraging the determinants of fulfillment, and vice versa. The trade-off between teamwork and autonomy in innovation shows, however, the presence of two antagonistic forces (the use of independent judgment against collective deliberation) which in combination negatively affect SwF only. One possible explanation is that the prevalence of collective deliberation and group routines, and the need to compromise over conflictual views, undermines perceived autonomy. Vice versa, the exclusive pursuit of individual achievement undermines collaborative dynamics within the team. In both cases, self-fulfillment is reduced.

Last, although to a little extent, socio economic-development improves SwC and fulfillment. When we isolate income, however, we observe a negative effect on overall job satisfaction (Table 4). This result is consistent with previous findings on individual income aspirations, reflecting the positional rather than an absolute nature of material satisfaction (Frey and Stutzer, 2002; Ferrer-i-Carbonell, 2005).

Recommendations and Limitations

In answering the question of what influences SwC in the workplace, this work takes into account the extent to which the organization, individual motivations and the wider context support human aspiration to act creatively. Following our findings, it appears that organizations can promote the achievement of individual desires regarding creativity by

leveraging the determinants of fulfillment. More specifically, SwC can be improved by specific interventions on the creation of appropriate organizational domains, such as the enhancement of collaborative teamwork, as well as by certain degree of professionalization of work, through job positions that require high domain-relevant skills. As regards individuals, the screening of workers' motivations matters, as intrinsically and socially motivated individuals appear to better interact with organizational processes and to accomplish a better perception of work outcomes. Our results on the subjective perception of SwC appear complementary to, and widely compatible with, the existing literature on the more objective components of creative output, as exemplified by Amabile (2001).

Beyond the organization, better life conditions in the community positively impact on employees' SwC and fulfillment on the workplace. This result opens interesting avenues of enquiry, to explore how the organization can act on SwC and fulfillment by acting on the community. This perspective could provide, for example, a new angle to the study of corporate social responsibility.

Amongst the limitations of our study, we highlight possible causes of endogeneity due to omitted variables and self-selection: (a) the cross-sectional nature of the study does not allow to properly evidence and partial out individual fixed effects and unobserved heterogeneity, and may be liable to omitted variables bias; (b) our results cannot be readily generalized since they account for one organizational form (the social cooperative) and one sector (social services), where self-selection of a specific kind of workers can be pronounced. To counteract these limitations, we have controlled for many organizational and individual characteristics and for motivational drivers reflecting self-selection and screening processes by organizations.

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Table 1

Measures of Satisfaction and Motivations

	Number of items	Items (scale 1 to 7 unless differently specified)	Aver.	St. Dev.
		•		
		•		
		•		
<i>Ex-ante social and personal intrinsic motivations</i>	Factor 1	<i>Social:</i>		
	5 Likert items	• Interest in social problems	5.33	1.67
		• Find a job useful for other people	5.31	1.68
		<i>Personal:</i>		
		• Achieve personal fulfillment on the job	5.68	1.43
		• Driven by curiosity and open to novelty	5.49	1.48
		• Importance of on-the-job relations	5.65	1.39
<i>Ex-ante compatibility of values in the choice of the organization</i>	Factor 2	• Sharing of ideals and values of the firm	4.66	1.73
	3 Likert items	• Desire to participate in decision making	4.01	1.84
		• Sharing of projects and common culture	4.46	1.89
<i>Ex-ante extrinsic motivations</i>	2 Likert items	• No other jobs available;	3.20	2.12
		• Wage and other monetary incentives	3.67	1.84
<i>Social preferences</i>	1 dummy variable	Never volunteered in the past	0.42	0.43

Notes: Factor analysis performed on eight motivational items extracted two factors corresponding to Ex-ante social and personal intrinsic motivations (Factor 1, 5 items) and Ex-ante compatibility of values in the choice of the organization (Factor 2, 3 items). *Source:* Authors' calculations on SISC 2007 (*Survey on Italian Social Cooperatives 2006*).

Table 2
Measures of Substantive Organizational Characteristics

<i>Scale</i>	Nr. of items	Items	Average	Standard Deviation
		Scale 1 to 7 (unless differently specified)		
<i>Teamwork*</i>	Factor	What are the most relevant aspects in your team?		
	6 Likert items			
		• Cooperation	5.49	1.56
		• job rotation	4.86	2.08
		• support by the management	5.72	1.48
		• the quality of results	5.85	1.46
		• widespread feelings of trust and respect	5.55	1.43
		• sharing of knowledge and experience	5.61	1.40
<i>Autonomy*</i>	Factor	To what extent are you autonomous?		
	2 Likert items			
		• in organizing job tasks	4.70	1.96
		• in relations with clients	4.68	1.88
<i>Autonomy in innovation</i>		• in problem solving	4.26	1.96
	1	Autonomy in the development of work and service related innovations (Yes/No)	0.42	0.48
	Dummy			
<i>Involvement*</i>	Factor	To what extent does the Cooperative use the following tools to recognize and improve your work?		
	3 Likert items			
	(1 to 5 scale)			
		• development of interpersonal relations	3.27	1.09
<i>Procedural</i>		• involvement in the mission	3.13	1.24
		• involvement in decision making	2.88	1.26
<i>Procedural</i>	Factor	The cooperative:		

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<i>fairness*</i>	5 Likert items	• gives advice and effective guidelines	5.29	1.63
		• gathers appropriate information on employees' activities	5.10	1.67
		• applies the same criteria to all workers	5.10	1.90
		• defines clear and shared objectives	5.23	1.65
		• keeps word	5.67	1.55
<i>Relationships with superiors*</i>	Factor	Your managers give you:		
	4 Likert items	• availability, kindness and respect	6.15	1.24
		• listening to ideas and proposals	5.56	1.50
		• advice and guidelines	5.57	1.50
		• attention to the quality of work	5.78	1.38
<i>Competence</i>	1 Likert item	Your job usually requires... high-level competences	4.72	1.69
<i>Learning</i>	2	No professional growth	0.11	0.31
	Dummies	No training	0.25	0.43
<i>Workload pressure*</i>	Factor	Your job usually requires:		
	4 Likert items	• temporary involvement in very different activities	4.92	1.90
		• reaching difficult objectives	4.32	1.85
		• working at a fast pace	4.62	1.80

Notes: * Factor analysis performed separately for each organizational dimension extracted only one factor.

Source: Authors' calculations on SISC 2007 (*Survey on Italian Social Cooperatives, 2006*).

Table 3
Factor Loadings

	Teamwork	Autonomy	Involvement	Procedural fairness	Relations with superiors	Workload Pressure	Motivations	
	Oblique rotation (Structure matrix)							
	Factor	Factor	Factor	Factor	Factor	Factor	Factor	Factor
	1	1	1	1	1	1	1	2
Cooperation	0.69							
Job rotation	0.52							
Support by the management	0.62							
Quality of results	0.81							
Widespread feelings of trust and respect	0.83							
In organizing job tasks		0.72						
With clients		0.80						
In problem solving		0.70						
Development of interper- sonal relations			0.50					
In the mission			0.89					
In decision making			0.82					
Advice and effective guide- lines				0.77				
Appropriate information on employees' activities				0.78				
Application of same criteria to all workers				0.76				
Clear and shared objectives				0.83				

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Word keeping	0.74		
Availability, kindness and respect	0.71		
Listening to ideas and proposals	0.79		
Advice and guidelines	0.83		
Attention to quality	0.81		
Involvement in very different activities	0.60		
Reaching difficult objectives	0.73		
Working at a fast pace	0.64		
Interest in social problems	0.72	0.27	
Job useful for other people	0.73	0.28	
Personal fulfillment	0.74	0.20	
Curiosity and openness to novelty	0.66	0.21	
Interpersonal relations	0.68	0.23	
Sharing of ideals and values	0.30	0.79	
Participate in decision making	0.17	0.71	
Sharing of projects and common culture	0.30	0.68	

Notes: Extraction method: principal axis factoring. Only one factor was extracted in the case of teamwork, autonomy, involvement, procedural fairness, and relations with superiors (no rotation effected). In the case of motivational items factor loadings in the structure matrix are shown after performing the Oblimin rotation with Kaiser normalization. Cronbach's Alpha values: teamwork 0.813; autonomy 0.795; involvement 0.777; procedural fairness 0.883; relations with superiors 0.864; workload pressure 0.715; motivations ex-ante 0.819; choice of the organization 0.771.

Table 3
Determinants of Satisfaction Items

Ordered logit estimates	Satisfaction with variety and creativity in the job			Satisfaction with self-fulfillment			Overall job satisfaction		
	Odds	Std. Err.	Z -	Odds	Std. Err.	Z -	Odds	Std. Err.	Z -
	Ratios	(robust)	stats	Ratios	(robust)	stats	Ratios	(robust)	stats
<i>Organizational processes</i>									
Team ^a	1.63***	0.08	9.69	1.37***	0.07	6.57	1.28***	0.07	4.83
Autonomy ^a	1.14**	0.05	2.82	1.19***	0.05	4.32	1.11**	0.04	2.77
Autonomy in innovation ^c	1.34***	0.11	3.64	1.32***	0.10	3.53	1.07	0.09	0.84
Involvement ^a	1.16**	0.06	3.00	1.27***	0.07	4.44	1.19**	0.06	3.34
Procedural fairness ^a	1.18**	0.07	2.75	1.26***	0.07	4.04	1.67***	0.10	8.78
Relationships with superiors ^a	1.21***	0.06	3.56	1.56***	0.09	7.56	1.59***	0.09	8.16
Workload ^a	1.17*	0.07	2.54	0.95	0.06	-0.77	0.87**	0.05	-2.59
<i>Learning</i>									
Competencies required ^b	1.18***	0.04	5.21	1.07*	0.03	2.38	1.03	0.03	1.05
No professional growth ^c	0.64**	0.10	-2.77	0.47***	0.07	-5.00	0.62**	0.10	-3.08
No training ^c	0.84^	0.09	-1.66	0.89	0.09	-1.10	1.13	0.12	1.20

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<i>Motivational aspects</i>									
Motivations ex-ante ^a	1.30***	0.07	4.75	1.16*	0.07	2.39	1.33***	0.07	5.21
Choice organization (value compatibility) ^a	1.01	0.06	0.18	1.07	0.07	1.14	1.08	0.06	1.53
No other work opportunities ^b	0.94**	0.02	-2.93	0.91***	0.02	-4.62	0.90***	0.02	-5.24
Wage and other monetary incentives ^b	1.02	0.02	0.92	1.07**	0.02	2.72	1.08***	0.02	3.93
Never volunteered in the past ^c	0.99	0.08	-0.16	0.91	0.07	-1.24	1.09	0.09	1.06
<i>Formal involvement (membership)</i>									
Ratio worker-member/employees ^d	0.84	0.19	-0.79	0.96	0.21	-0.20	0.79	0.16	-1.14
Member ^c	1.17^	0.11	1.70	1.08	0.10	0.85	1.22^	0.13	1.94
<i>Socio-demographic controls</i>									
Age ^d	0.99*	0.00	-2.26	1.00	0.00	-0.62	1.01*	0.00	2.24
Gender ^c	0.99	0.08	-0.06	1.01	0.08	0.14	1.09	0.09	1.00
Education: university degree ^c	0.88	0.09	-1.30	0.75**	0.06	-3.40	0.68***	0.06	-4.38
Tenure ^d	0.99	0.01	-0.76	0.99	0.01	-1.01	0.99^	0.01	-1.67
Open-end contract ^c	0.93	0.10	-0.73	0.90	0.08	-1.19	1.13	0.11	1.23
Part-time ^c	1.16^	0.09	1.81	0.87^	0.07	-1.70	0.84*	0.07	-2.05
Hourly wage ^d	0.99	0.01	-0.62	1.03*	0.01	2.41	0.99	0.01	-0.95

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Individual monetary incentives ^c	1.03	0.17	0.21	1.00	0.13	0.00	0.92	0.14	-0.55
<i>Organizational variables</i>									
Log size of the organization ^d	0.98	0.04	-0.48	1.01	0.04	0.21	1.08*	0.04	2.25
Sector of operation (hard to employ adults) ^c	1.12	0.15	0.86	1.09	0.13	0.74	0.99	0.12	-0.07
<i>Socio-economic context</i>									
Socio-economic development (Stiglitz) ^d	1.00*	0.00	2.28	1.01**	0.00	3.26	1.00*	0.00	2.37
Log provincial income ^d	1.04	0.03	1.40	1.00	0.03	0.03	0.96	0.03	-1.28
No. of Observations	3021			3021			3021		
No. of Clusters	302			302			302		
Wald Chi2 (28):	786.45			901.42			956.65		
Log-pseudolikelihood	-4518.5			-4771.8			-4082.1		
Pseudo R2	0.0956			0.1069			0.1307		

Notes:

Variable type: ^a continuous standardized (factor); ^b Ordinal; ^c Dummy; ^d Continuous. *Source:* Authors' calculations on SISC 2007 (*Survey on Italian Social Cooperatives 2006*).

Odds Ratios (OR) statically significant at level: [^]10%; * 5%; ** 1%; *** 1 %.

Table 4

Analysis of Complementarities Between Different Organizational Processes and Motivational Drives

Ordered logit estimates	Satisfaction with variety and creativity in the job			Satisfaction with self-fulfillment			Overall job satisfaction		
	Odds Ratio	Std. Err. (robust)	z	Odds Ratio	Std. Err. (robust)	z	Odds Ratio	Std. Err. (robust)	z
<i>Organizational processes</i>									
Team ^a	1.71***	0.11	8.11	1.57***	0.11	6.51	1.47***	0.10	5.80
Autonomy in innovation ^a	1.48***	0.12	4.88	1.48***	0.12	5.01	1.13	0.08	1.58
Involvement ^a	1.21**	0.08	2.99	1.36***	0.09	4.82	1.45***	0.09	5.65
Relationships with superiors ^a	1.94***	0.27	4.85	1.77***	0.25	3.97	2.57***	0.32	7.54
Competencies required ^b	1.23***	0.03	7.68	1.10***	0.03	3.77	1.02	0.03	0.63
Motivations ex-ante ^a	1.36***	0.08	4.96	1.28***	0.09	3.64	1.52***	0.10	6.48
<i>Interactions</i>									
Team*Auton.Innovat. ^d	0.91	0.09	-0.99	0.79*	0.08	-2.36	0.83^	0.09	-1.76
Team*Involvement ^d	0.94	0.06	-1.08	0.98	0.05	-0.40	0.98	0.06	-0.27
Team*Relat.superiors ^d	1.03	0.05	0.60	0.98	0.05	-0.50	1.01	0.06	0.17
Team*Motivations ^d	1.15*	0.06	2.56	1.10^	0.06	1.71	1.12*	0.05	2.37

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Auton.Innovat. *Involvement ^d	1.05	0.09	0.57	1.07	0.10	0.72	0.97	0.09	-0.37
Auton.Innovat. *Relat.Superiors ^d	1.07	0.11	0.68	1.21 [^]	0.12	1.90	1.10	0.12	0.89
Auton.Innovat. *Motivat. ^d	0.93	0.08	-0.84	0.88	0.08	-1.36	0.81*	0.08	-2.26
Involvement*Relat.Superiors ^d	1.05	0.06	0.93	0.93	0.06	-1.17	0.98	0.05	-0.44
Involvement*Motivations ^d	0.99	0.05	-0.28	1.00	0.06	-0.05	1.04	0.05	0.70
Relat.Superiors*Motivations ^d	1.00	0.06	-0.05	1.15*	0.06	2.43	1.05	0.06	0.80
Relat.Superiors*Competence ^d	0.92**	0.02	-3.00	0.99	0.03	-0.46	0.94**	0.02	-2.70
<i>Socio-demographic controls</i>									
Age ^d	0.99*	0.00	-2.23	1.00	0.00	-0.62	1.01**	0.00	3.02
Gender ^c	1.02	0.08	0.22	1.07	0.09	0.85	1.22*	0.10	2.32
Education: university degree ^c	0.87	0.08	-1.41	0.70***	0.06	-4.48	0.56***	0.05	-6.86
Tenure ^d	1.00	0.01	-0.45	0.99	0.01	-0.76	0.99 [^]	0.01	-1.78
Open-end contract ^c	0.94	0.09	-0.61	0.92	0.08	-0.94	1.12	0.11	1.15
Part-time ^c	1.11	0.08	1.39	0.87 [^]	0.07	-1.78	0.90	0.08	-1.22
Hourly wage ^d	0.99	0.01	-0.43	1.04*	0.02	2.52	1.00	0.01	0.12
Individual monetary incentives ^c	1.00	0.15	-0.03	0.94	0.13	-0.46	0.86	0.13	-0.96
No. of Observations	3168			3168			3168		
No. of Clusters	316			316			316		

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Wald Chi2 (28):	788.74	736.03	921.19
Log-pseudolikelihood	-4777.6	-5062.0	-4399.0
Pseudo R2	0.0888	0.959	0.1081

Notes:

Variable type: ^a continuous standardized (factor); ^b Ordinal; ^c Dummy; ^d Continuous. *Source:* Authors' calculations on SISC 2007 (*Survey on Italian Social Cooperatives 2006*).

Odds Ratios (OR) statically significant at level: ■10%; * 5%; ** 1%; *** 1

Table 5

The Determinants of Creativity-Related Satisfaction and Other Forms of Self-Accomplishment

	<i>Creativity</i>	<i>Self- fulfillment</i>	<i>Job satisfaction</i>
Teamwork	Yes	Yes (lower)	Yes (lower)
Competencies required	Yes	Yes (lower)	No
Autonomy	Yes	Yes (higher)	No
Relationships with superiors	Yes	Yes (higher)	Yes (higher)
Autonomy in innovation	Yes	Yes (lower)	No
Involvement	Yes	Yes (higher)	No
Procedural fairness	Yes	Yes (higher)	Yes (higher)
Ex-ante intrinsic motivations	Yes	Yes (lower)	Yes (lower)
Interactions			
Team & Motivations	Yes	No	Yes (lower)
Team & Autonomous innovation	No	Yes (negative)	No
Relations with superiors & Competence	Yes (negative)	No	No
Relations with superiors & Motivations	No	Yes	No

Notes: Effects are positive unless differently specified.